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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.     | CONFIRMATION NO.               |
|---|-------------|----------------------|-------------------------|--------------------------------|
| 09/719,709  | 12/12/2000  | Magnus Par Jandel    | 34645-00521USPX         | 3245                           |
| 7590  | 03/23/2004  |                      |                         | EXAMINER<br>KIBLER, VIRGINIA M |
| Thomas L Crisman<br>Jenkens & Gilchrist<br>3200 Fountain Place<br>1445 Ross Avenue<br>Dallas, TX 75202-2799 |             |                      | ART UNIT<br>2623        | PAPER NUMBER                   |
|   |             |                      | DATE MAILED: 03/23/2004 |                                |

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                   |               |
|------------------------------|-------------------|---------------|
| <b>Office Action Summary</b> | Application No.   | Applicant(s)  |
|                              | 09/719,709        | JANDEL ET AL. |
|                              | Examiner          | Art Unit      |
|                              | Virginia M Kibler | 2623          |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 08 January 2004.  
 2a) This action is **FINAL**.                            2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1,2,4-11 and 13-18 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1,2,4-11 and 13-18 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

|  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Response to Amendment*

1. The amendment received on 1/8/04 has been entered. Claims 1, 2, 4-11, and 13-18 remain pending.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 6, 10, 11, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strom et al. ("Medical Image Compression with Lossless Regions of Interest") in view of Hirabayashi (6,256,413).

Regarding claim 1, Strom et al. ("Strom") discloses when transmitting the image performing a forward transformation on the image to be transmitted (Page 18, Sect. 3.3); defining the required regions of interest in the image (Page 7, Sect. 2, para. 1; Page 15, Sect. 3.1); describing transform coefficients for reconstructing each region of interest (Page 17, Sect. 3.2); classifying the transform coefficients into segments (Page 17, Sect. 3.2); coding each segment independently (Pages 9-10, Sect. 2.2); concatenating the bit stream of each segment together with necessary stream and header information, sending the concatenated bit stream to the receiver (Page 18, para. 2); when receiving the image, receiving the concatenated bit stream

and decoding the header information, locating and decoding the segment information associated with each regions of interest in the concatenated bit stream, describing the coefficients needed for reconstructing the segments of each region of interest, decoding the needed segment data from the concatenated bit stream, and reconstructing the needed segments for displaying the reconstructed segments (Page 18, para. 2). Strom ignores the issue of region description (Page 18, Para. 2), but discloses that it is known to generate a definition of an outer boundary line of the regions, transmit the definition as well as the compressed bit stream to the receiver, and to decode with the aid of the definition (Page 18, Para. 2). Strom discloses that the decoder must either infer the location of region, or must be explicitly told the boundaries of the region. Strom does not appear to recognize including generating a mask to describe the transform coefficients for reconstructing each region of interest. However, Hirabayashi teaches that it is known to create a mask describing the transform coefficients (Abstract). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the boundary description disclosed by Strom to include using a mask as taught by Hirabayashi because it is a well known methodology routinely implemented in the art and it provides another way of emphasizing or de-emphasizing information content of the image.

Regarding claim 2, Strom discloses prior to transmitting the image different regions are coded to have predetermined accuracy levels independently of each other (Pages 9-10, Sect. 2.2).

Regarding claims 10 and 11, the arguments analogous to those presented above for claims 1 and 2 are applicable to claims 10 and 11, respectively.

Regarding claims 6 and 15, Strom discloses generating a shape description, prior to transmitting the image for determining the closed boundary line of an object in the image (Page 8)..

4. Claims 5 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strom et al. ("Medical Image Compression with Lossless Regions of Interest") in view of Hirabayashi (6,256,413) as applied to claims 1 and 10 above, and further in view of Gonzalez et al. (*Digital Image Processing*).

Regarding claims 5 and 14, Strom discloses generating a boundary description including various representations including straight lines, circular arcs, chain codes, polygonal approximations, signatures, and boundary segments (Page 8). Strom does not appear to expressly recognize including generating a topology description defining the topological relationship between objects and shapes in the image. However, Gonzalez et al. ("Gonzalez") teaches that it is known to use topology descriptions as regional descriptors (Page 505, Sect. 8.3.2). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the boundary description of the image regions disclosed by Strom and Hirabayashi to include topology descriptions as taught by Gonzalez because it is well known in the art and provides a useful global description of regions in the image.

5. Claims 7-9 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strom et al. ("Medical Image Compression with Lossless Regions of Interest") in view of Hirabayashi (6,256,413) as applied to claims 1 and 10 above, and further in view of Impagliazzo et al. (5,757,974).

Regarding claims 7 and 16, Strom does not appear to recognize including generating a segment description defining which transform coefficients belong to the respective segment. However, Impagliazzo et al. ("Impagliazzo") teaches that it is known to generate a segment description 110 (Figure 4). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the compressing disclosed by Strom and Hirabayashi to include generating a segment description as taught by Impagliazzo because it allows for the identification of a coefficient.

Regarding claims 8 and 17, Impagliazzo discloses generating a subset description (Col. 6, liens 49-62).

Regarding claims 9 and 18, Impagliazzo discloses generating a pointer, defining a position in the bit stream for the segment (Col. 7, lines 33-38).

6. Claims 4 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strom et al. ("Medical Image Compression with Lossless Regions of Interest") in view of Hirabayashi (6,256,413) as applied to claims 1 and 10 above, and further in view of Katata et al. (5,978,515).

Regarding claims 4 and 13, Strom does not appear to recognize decoding only predetermined parts of the compressed bit stream. However, Katata et al. ("Katata") teaches that it is known to decode only predetermined parts (Col. 10, lines 29-67). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the decoding disclosed by Strom and Hirabayashi to include only predetermined parts as taught by Katata because it allows decoding the position and shape of a selected area.

***Response to Arguments***

7. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Contact Information***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Virginia M Kibler whose telephone number is (703) 306-4072. The examiner can normally be reached on Mon-Thurs 8:00 - 5:30 and every other Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on (703) 308-6604. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*VK*

VK  
3/17/04

MEHRDAD DASTOURI  
PRIMARY EXAMINER

*Mehrdad Dastouri*